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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTORNEY DOCKET CUTLP0101USA

In re patent application of

Stephen Cutler, et al

Filed Herewith

For: ELECTRICAL CONNECTOR WITH IMPROVED LOCKING MEANS

PRELIMINARY AMENDMENT

BOX PATENT APPLICATION
Commissioner for Patents
Washington, DC 20231

Sir:

Please preliminarily amend the above-identified application as follows:

In the Specification

Please add the following paragraph immediately preceding page 1, line 7:

RELATED APPLICATION

The present application is a continuation of U.S. Application Serial No. 09/340,234, filed July 1, 1999.

Please rewrite the paragraph beginning at page 3, line 28 to read as follows:

This invention features a locking connector for electrically interconnecting first and second electrical conductors, such as first and second sections of electrical wire. An electrical contact component is electrically interengaged with the first conductor. The contact component includes first and second, spaced apart contact sections and an intermediate contact section that interconnects the first and second sections. The intermediate contact section includes an opening that receives the second conductor. A set of at least two spring locking clips are mounted to the first contact section and generally serially arranged to face away from the opening in the intermediate contact section such that the clips are sequentially and resiliently opened by introducing the second conductor through the opening. The clips are spring biased to grip the second conductor at a plurality of locations and hold the second conductor in electrical interengagement with the second contact section. As a result, the clips resist disengagement of the second conductor from the contact component.

Please rewrite the paragraph beginning at page 4, line 26, to read as follows:

The first plate may carry a pair of generally parallel lips that extend transversely therefrom. The first segment of one of the clips may be interconnected between the intermediate contact section wall and one of the lips, and the first segment of the other clip may be interconnected between the pair of lips. A distal lip may extend transversely from the second plate for limiting the

extent to which the second conductor may be introduced through the opening of the contact. The second plate may include guide means for locating the second conductor relative to the second plate. This guide means may comprise an elongate rib formed in the second plate.

Please rewrite the paragraph beginning at page 9, line 7 to read as follows:

As best illustrated in Fig. 3, the locking connector assembly 2 is permanently mounted within enclosure 12. Assembly 2, shown by itself in Fig. 1, includes a contact component 4 having a generally C-shaped cross sectional configuration, and a pair of leaf spring locking clips 6 and 8 mounted within contact component 4.

Please rewrite the paragraph beginning at page 11, line 20, to read as follows:

The second spring clip 8 is constructed in a similar manner and is likewise mounted permanently within contact component 4. In this case, the upper clip segment 152 is fit securely between lips 112 and 114, and lip 98. The locking spring clip is folded and again includes a spring bias that urges clip segment 154 downwardly as indicated by downward arrow 160 in Fig. 3. Alternative means may be employed for securing the spring clips to the contact component.

Please rewrite the paragraph beginning at page 16, line 14, to read as follows:

Assorted other types of electrical appliances may employ the locking connector assembly of this invention. For example, the connector may be

employed with industry standard connector heads for low voltage and high voltage connections. Likewise, the connector may be employed in high and low voltage plugs and switches.

In the Claims

Please cancel claims 1-20 and 22 without prejudice.

Please add the following new claims:

23. (New) A locking connector for electrically interconnecting two or more electrical conductors comprising:

an electrical contact component electrically interengaged with a first conductor, said contact component including a contact section and an opening that receives a second conductor;

at least one spring locking clip that is spring biased to grip the second conductor and hold the second conductor in electrical interengagement with said contact section, while resisting disengagement of the second conductor from said contact section;

and

a release hole formed through said contact section transversely offset from said opening for receiving a clip release element, said clip having a portion extending transversely outward of said opening in line with said release hole for engagement by the clip release element upon insertion of the clip release element into the release hole to urge said clip into an open condition to permit unobstructed

insertion and removal of the second conductor into and out of said contact component.

24. (New) The connector of claim 23 wherein said clip has a grip locking end portion in alignment with said opening that is spring biased to grip the second conductor.

25. (New) The connector of claim 24 wherein said grip locking end portion is transversely curved to conform to the profile of the second conductor.

26. (New) The connector of claim 23 wherein said clip is electrically conductive.

27. (New) The connector of claim 23 wherein said contact component includes another section spaced from said contact section, and an intermediate section that interconnects said contact section and said another section, said opening for the second conductor extending through said intermediate section.

28. (New) The connector of claim 27 wherein said clip is secured to said another section and is spring biased toward said contact section.

29. (New) The connector of claim 28 wherein said clip comprises a leaf spring.

30. (New) The connector of claim 23 wherein said contact section includes guide means for locating the second conductor relative to said clip.

31. (New) The connector of claim 30 wherein said guide means comprises an elongate rib formed in said contact section transversely offset from said opening.

32. (New) The connector of claim 31 wherein said release hole extends through said elongate rib.

33. (New) The connector of claim 23 further including an enclosure that accommodates said compact component, said enclosure having an inlet aligned with said opening for receiving the second conductor.

34. (New) The connector of claim 33 wherein said enclosure includes a unitary component.

35. (New) The connector of claim 23 wherein said contact component has opposite ends, said opening that receives the second conductor extending through one of said ends, and another opening that receives the first conductor extending through the other of said ends, and at least one additional spring locking clip that is spring biased to grip the first conductor and hold the first conductor in electrical interengagement with said contact section, while resisting disengagement of the first conductor from said contact section.

36. (New) The connector of claim 35 further comprising another release hole formed through said contact section transversely offset from said another opening for receiving a clip release element, said additional clip having a portion extending transversely outward of said another opening in line with said another release hole that is engageable by the clip release element upon insertion of the clip release element into said another release hole to urge said additional clip into an open condition to permit unobstructed insertion and removal of the first conductor into and out of said contact component.

37. (New) The connector of claim 23 further comprising an enclosure that includes a generally rectilinear component having an interior space that accommodates said contact component, said rectilinear component including a front surface having an inlet aligned with said opening for receiving the second

conductor, and a rib that peripherally surrounds said rectilinear component and extends transversely to said front surface, said generally rectilinear component including at least one surface that has a recess formed therein which facilitates a user's grip.

38. (New) A locking connector for electrically interconnecting two or more electrical conductors comprising:

an electrical contact component electrically interengaged with a first conductor, said contact component including a contact section and an opening that receives a second conductor;

and

at least one spring locking clip that is spring biased to grip the second conductor and hold the second conductor in electrical interengagement with said contact section, while resisting disengagement of the second conductor from said contact section, said clip having a grip locking end portion that is transversely curved to conform to the profile of the second conductor.

REMARKS

By the present amendment, claim 21 has been retained in this application. Also, claims 23-38 have been added. Accordingly, favorable consideration of the pending claims 21 and 23-38 is respectfully requested.

In the event any additional fees are due in connection with the filing of this paper, the Commissioner is authorized to charge those fees to our Deposit Account No. 18-0988 (Charge No. CUTLP0101USA).

Respectfully submitted,

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APPENDIX – Amendment Version With Markings to Show Changes Made

Following is a marked-up version of the above amendments to the specification and claims, with added material underlined, and with removed material struck out and in brackets.

In the Specification

A new paragraph has been added immediately preceding page 1, line 7.

Please rewrite the paragraph beginning at page 3, line 28 to read as follows:

This invention features a locking connector for electrically interconnecting first and second electrical conductors, such as first and second sections of electrical wire. An electrical contact component is electrically interengaged with the first conductor. The contact component includes first and second, spaced apart contact sections and an intermediate contact section that interconnects the first and second sections. The intermediate contact section includes an opening that receives the second conductor. A set of at least two spring locking clips are mounted to the first contact section and generally serially arranged to face away from the opening in the intermediate contact section such that the clips are sequentially and resiliently opened by introducing the second conductor through the opening. The clips are spring biased to grip the second conductor at a plurality of locations and hold the second conductor in electrical interengagement with the

second contact section. As a result, the clips resist disengagement of the second conductor from the contact component.

Please rewrite the paragraph beginning at page 4, line 26, to read as follows:

The first plate may carry a pair of generally parallel lips that extend transversely therefrom. The first segment of one of the clips may be interconnected between the intermediate contact section wall and one of the lips, and the first segment of the other clip may be interconnected between the pair of lips. A distal lip may extend transversely from the second plate for limiting the extent to which the second conductor may be introduced through the opening of the contact. The second plate may include guide means for locating the second conductor relative to the second plate. This guide means may comprise an elongate rib formed in the second plate.

Please rewrite the paragraph beginning at page 9, line 7, to read as follows:

As best illustrated in Fig. 3, the locking [~~contact~~] connector assembly 2 is permanently mounted within enclosure 12. Assembly 2, shown by itself in Fig. 1, includes a contact component 4 having a generally C-shaped cross sectional configuration, and a pair of leaf spring locking clips 6 and 8 mounted within contact component 4.

Please rewrite the paragraph beginning at page 11, line 20, to read as follows:

The second spring clip 8 is constructed in a similar manner and is likewise mounted permanently within contact component 4. In this case, the upper clip segment 152 is fit securely between lips 112 and 114, and lip 98. The locking spring clip is folded and again includes a spring bias that urges clip segment 154 downwardly as indicated by downward arrow [~~162~~] 160 in Fig. 3. Alternative means may be employed for securing the spring clips to the contact component.

Please rewrite the paragraph beginning at page 16, line 14, to read as follows:

Assorted other types of electrical appliances may employ the locking connector assembly of this invention. For example, the connector may be employed [~~in~~] with industry standard connector heads for low voltage and high voltage connections. Likewise, the connector may be employed in high and low voltage plugs and switches.

In the Claims

Claim 21 has been retained in this application.

New claims 23-38 have been added.